

REMARKS

As a preliminary matter, Applicants have amended claim 16 to address the clarity issue noted by the Examiner on page 2 of the Office Action. No new matter has been added.

Claims 12-24 are pending. In this response, Applicants have amended, without adding new matter, independent claims 12, 16, and 21 to better clarify the claimed invention. As amended, all claims are patentable subject matter over the cited art.

The claimed invention provides a switching node for a Wavelength Division Multiplex (WDM) optical network that allows a protection path of an optical signal to pass a node, even if a failure in the node blocks the working path of the signal. To that end, the node comprises at least one switching unit and a plurality of optical interfaces to connect to a WDM transmission line. Each optical interface includes a demultiplexer that disassembles incoming multiplexed signals received at an input port of the switching unit, and a multiplexer that assembles output channels from corresponding output ports on the switching unit into a multiplexed signal.

Turning to the rejections, the Office Action indicates that claim 12 stands rejected under 35 U.S.C. §103(a) as being obvious over Graves (U.S. Pat. App. Pub. No. 2002/0064336). Claim 12 is directed to the input of the switching node and recites at least one receiver and an input branching mechanism. Applicants have amended claim 12 to explicitly recite that the input branching mechanism is connected directly to the at least one receiver. *E.g., Spec., Figure 3.* Graves does not teach or suggest this structure.

Graves discloses providing protection for the partial failure of an optical switching unit by applying incremental redundancy and complex control mechanisms. As seen in Figure 3 of Graves, the mechanism comprises a number of different components, including pluralities of optical switches (12), demultiplexers (16), multiplexers (18), and protection switches (56, 58). According to Graves, the input protection switches are configured to switch an optical signal from an input multiplexer to either a switching matrix or a spare switching matrix. Graves does

not teach or suggest that any of the protection switches connect "directly to ... at least one receiver," as does amended claim 12. And in no case do any of the input protection switches of Graves switch an optical signal to a receiver, as recited in claim 12.

Moreover, the solution provided by Graves necessarily requires the presence of additional, essential components connected to the protection switches. As seen in Figure 3 of Graves, for example, the output ports of the protection switches (56) all connect to one of the optical switches - i.e., either the optical switches 12a-12m, or the spare optical switch 12m+1. None connect to a receiver. Nor would anyone skilled in the art ever think to modify Graves such that a receiver connected directly to the protection switch, as claimed.

Graves does not teach or suggest every limitation of amended claim 12. Nor would anyone skilled in the art have a reason to modify claim 12 as the Office asserts. Therefore, Graves does not render claim 12, or any of its dependent claims, obvious.

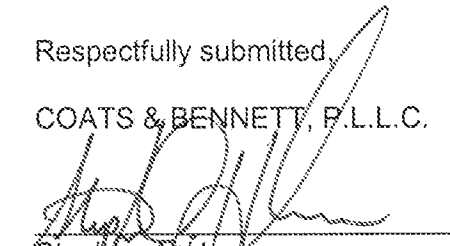
As for the remaining independent claims, they, too, stand rejected under §103(a) as being unpatentable over Graves. Claim 16 is directed to the output of the switching node and recites at least one transmitter and an output branching mechanism, and has been amended to explicitly recite that the output branching mechanism is connected "directly to the at least one transmitter." Claim 21 is directed to a node and recites a branching mechanism and at least one transponder that has a receiver and a transmitter. Like claims 1 and 16, claim 21 recites that the transmitter and receiver of each transponder connects "directly to the same branching mechanism." Accordingly, for reasons similar to those stated above, Graves does not teach or suggest this limitation, nor would one skilled in the art have a reason to modify the Graves mechanism to perform as much.

In sum, Graves does not teach or suggest directly connecting a branching mechanism to a transmitter or a receiver. Further, no one skilled in the art would be led to modify Graves as such. Therefore, all independent claims 12, 16, and 21 define patentable subject matter over

the art of record. Further, all dependent claims include the limitations of their respective parent claims, and thus, are not rendered obvious by the art of record. Accordingly, Applicants respectfully request that the Examiner issue a Notice of Allowance for all pending claims.

Respectfully submitted,

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